Family *CYPRINOIDÆ.*

Subfamily CYPRININÆ.

CARASSIAS AURATUS Heckel.

Two abnormal varieties of this species,—the common and well-known "Gold-fish,"—are in the collection. One of them has the tail double, but connected at the superior margin.

Family *GALEORHINOIDÆ.*

Subfamily GALEORHININÆ.

TRIACIS SEMIFASCIATUS Girard.

A young specimen was sent.

ISOPLAGIODON, sp.

A new species of this family is in Mr. Hubbard's collection. As the single specimen is a young one, its positive determination is deferred for the present.

Family *RAIOIDÆ.*

Subfamily RAIINÆ.

URAPTERA BINOCULATA Girard.

One specimen.

Synopsis of the species of LOPHOBRANCHIATE Fishes of Western North America.

BY THEODORE GILL.

The present brief article is preliminary to a more extended paper on the Lophobranchiate fishes inhabiting the Western coast of the North American continent. Six species have been attributed by Dr. Girard to that coast. Subtracting from that number one which appears to have been founded on a smaller individual of the common species described by Girard as *Syngnathus californiensis*, we have still the number assigned by Girard; the *S. californiensis* of that author being distinct from the homonymous species of Storer, as shown by Ayres. All the species noticed are in the collection of the Smithsonian Institution.

Family *SYNGNATHOIDÆ* Bleeker.

Subfamily HIPPOCAMPINÆ (Kaup.) Gill.

Genus HIPPOCAMPUS Cuv.

1. HIPPOCAMPUS GIGAS Girard.
2. HIPPOCAMPUS GRACILIS Gill.

The body is very slender, the height being contained four times and a half in the length of the tail, or equal to the distance of the snout from the hinder border of the orbit. The tube forms about half the length of the head, which forms rather more than a sixth of the length. The spines at the angles of the frontal triangle are nearly equal and blunt. The coronet is rather elevated; the temporal spines rather large and blunt. The angles, especially the dorsal, of every third or fourth plate are tuberculous.

D. 19. Plates $\frac{10\ (3)}{10\ (1)\ 38}$.

The color is a very dark purple, indistinctly and sparsely dotted with lighter. The fins are colorless.

A single female specimen was obtained by Mr. Xantus at Cape St. Lucas. It differs from any of the previously described species by the combination of characters indicated in the diagnosis, and is remarkable for its slender form, which rivals that of *Acentronura*.

Subfamily *SYNGNATHINÆ* Kaup.

Genus DERMATOSTETHUS Gill.

This genus is, perhaps, most closely related to Syngnathus, although in some respects tending to Trachyrhamphus (*Kaup*), &c. It is readily distinguished from Syngnathus by the following characters:

1st. The trunk and tail especially are considerably more robust.
2d. The breast-shields are covered by the adipose skin.
3d. The occiput is elevated and carinated.
4th. The lower jaw is received within the upper.

In all other respects it resembles Syngnathus.

3. DERMATOSTHUS PUNCTIPINNIS Gill.

The height and width of the trunk nearly equal the head behind the eyes. The head forms about an eighth of the total length; the snout equals the distance of the base of the pectoral fin from the eye, while the height at the occiput is equal to the length of the operculum. The tail (exclusive of the fin) is twice as long as the trunk.

D. 40—42. Plates $\frac{(2+*)\ 18\ |\ 9\ (\text{or}\ 9\frac{1}{2})}{(1+\dagger)\ 19\ (1)\ 39}$.

The color is a uniform chestnut, while the dorsal fin has its rays dotted with chestnut.

Four specimens, all of which were males, of about twelve inches long, were found at San Diego, California, by Mr. Trowbridge.

Genus SYNGNATHUS (Linn.) Kaup.

This genus, as restricted by Dr. Kaup, is represented in California by five species, which may be briefly distinguished by the characters assigned in the following synopsis:

Dorsal with 38—42 rays.
  Postanal plates 46—47..... S. californiensis.
  Postanal plates 40—43..... S. griseolineatus.
Dorsal with 30—34 rays.
  Snout forming more than half the length of head.
    Snout equal to interval between eye and base of pectoral. Nuchal plates scarcely keeled..... S. arundinaceus.
    Snout equal to interval between eye and end of pectoral fin. Nuchal plates sharply keeled..... S. leptorhynchus.
  Snout scarcely forming half the length of head..... S. dimidiatus.

4. SYNGNATHUS CALIFORNIENSIS Storer.

Nec S. californiensis *Girard*.

D. 42. Plates $\frac{19\frac{1}{2}\ |\ \frac{1}{2}\ 9\frac{1}{2}}{19—20\ (1)\ 46—47}$.

California (1), W. Hutton.

* Occipital and nuchal plates; in the formula for the other species they are omitted.
† First or gular plate; in the formula for the others it is omitted.

5. SYNGNATHUS GRISEOLINEATUS Ayres.

Syngnathus californiensis *Girard* (nec *Storer.*)
Syngnathus abbotti *Girard.*

D. 38—41. Plates $\frac{18 \mid 9}{18\ (1)\ 39—43}$.

San Francisco (1), Dr. Ayres; (1) Dr. Newberry. Tomales Bay (4), Mr. Samuels. Fort Umpqua, Oregon (3), Dr. Vollum.

6. SYNGNATHUS ARUNDINACEUS Girard.

D. 34. Plates $\frac{17 \mid 9}{17\ (1)\ 43}$.

Coast of California (1), Dr. Suckley.

7. SYNGNATHUS LEPTORHYNCHUS Girard.

D. 32. Plates $\frac{17 \mid 8}{17\ (1)\ 41}$.

San Diego, California (1).

8. SYNGNATHUS DIMIDIATUS Gill.

Syngnathus brevirostris *Girard* (nec *Hemp. et Ehr.*, nec *Tem. et Schlegel.*)

D. 30—32. Plates $\frac{17 \mid 7}{17\ (1)\ 37—39}$.

San Diego, California (3).

Subfamily *DORYRHAMPHINÆ* Kaup.

Genus DORYRHAMPHUS Kaup.

9. DORYRHAMPHUS CALIFORNIENSIS Gill.

The snout forms half the length of the head; its crest is composed of about ten irregular teeth, and farther back are two others. The double frontal crest is well dentated. The superior orbital border has five or six teeth. The ridge under the orbit is unarmed, but on the side of the snout is well serrated. The chin is prominent but unarmed, and some distance behind, in the middle is a slight swelling. The longest superior pectoral rays are about equal to the length of the operculum. The caudal is as long as the snout.

D. 25. A. 3. C. 44. P. 20. Plates $\frac{(2+)\ 15 \mid 7}{(1+)\ 18\ (1)\ 16}$.

The color is an almost uniform yellowish brown, but with a black streak from the snout to the upper axilla of the pectoral fin.

A single female specimen of this species was discovered by Mr. Xantus at Cape St. Lucas.

Descriptions of New Genera, Subgenera and Species of Tertiary and Recent Shells.

BY T. A. CONRAD.

Family *PLEUROTOMIDÆ.*

TURRIS, Rumphius. PLEUROTOMA, Lam.

The species of this genus are inhabitants of the Indian Ocean, coasts of Madagascar and China; and, as they are unknown on the American coasts,